

049.09  
GOVERNMENT  
EXHIBIT  
1:10-cr-00219





BOX 5007 / TONAWANDA, N.Y. 14151-5007 / (716) 876-6222

RECEIVED

December 29, 1996

Mr. Gary Foresch  
NYSDEC  
270 Michigan Avenue  
Buffalo, NY 14202-

DEC 30 1996

N.Y.S. DEPT. OF  
CONSERVATION

Re: #2 Quench Tower

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GOVERNMENT  
EXHIBIT  
1:10-cr-00219

Dear Mr. Foresch:

This letter is to inform you that our #2 Quench Tower has significant deterioration in the tower portion of the structure. We anticipate removal of the tower portion of the Quench Station. During the demolition it will be necessary to quench at #1 Quench Tower.

We anticipate demolition to occur during normal business hours commencing on or about January 6, 1997 and finishing approximately 10 days later.

After the removal of the tower portion, the Quench Station will be 51 feet long by 14 feet wide and 40 feet high opposed to the existing tower opening of 21 x 8.5 and 70 feet high. This low, larger rectangular station is considerably different from conventional Quench Towers. As such it offers certain qualities that reduce the entrainment of any particulates. The Quench Station's height is a fraction of typical quench towers (100-200 feet) and has no taper or chimney like structure to act as a duct thus inducing velocity to propel any particulates into the atmosphere.

We anticipate operating #2 Quench Station in its modified form and request your concurrence to this modification. — Discussed w/ HS. 1/4/97 — OK, with the condition if unforeseen problems occur stack might have to be raised. HWF.  
A Negative Notification is hereby made based not only on the above but also because Tonawanda Coke Corporation is a Foundry Coke Producer. Typical Foundry size coke is 4x4x6 inch while Furnace coke is 1x1x4 inch. The mathematical comparisons of the two yields a 3.38 ratio of surface area, Furnace/Foundry, for the same volume. Therefore, there is a factor of 3.38 less surface area available to generate particulates with Foundry coke.

Additionally, as a Foundry coke producer we would not quench more than 2.25 times per hour on average during a 24 hour period using only fresh water make-up that is approximately 10 times under the dissolved solids limitation.

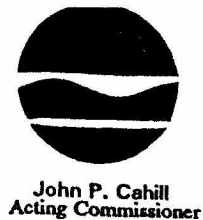
If you have any question, please contact me at 716 876-6222.

Very Truly Yours,  
Tonawanda Coke Corporation

Mark L. Kamholz



**New York State Department of Environmental Conservation**  
270 Michigan Avenue, Buffalo, New York 14203-2999  
(716) 851-7130



January 6, 1997



Mr. Mark Kamholz  
Tonawanda Coke Corporation  
Box 5007  
Tonawanda, New York 14151-5007

Dear Mr. Kamholz:

This letter is in response to your December 29, 1996 letter regarding the removal of the tower portion of the No. 2 Quench Tower.

The Department has no problem at this time with the removal of the upper portion of the quench tower. However, if unforeseen problems occur, such as, but not limited to, fallout or odor complaints resulting from the removal of the tower, we may require that the tower be rebuilt back to the original height.

It should also be noted that Part 214.5(a) requires that all wet quench towers be equipped with a baffle system.

If you have any questions or comments, please contact me at 851-7130.

Very truly yours,

*Gary W. Foersch*

Gary W. Foersch  
Environmental Engineering  
Technician 3

GWF:ml

cc: Mr. Larry Sitzman, Region 9 Air Resources

October 29, 1993

Michael Shapiro  
Deputy Assistant Administrator for Air and Radiation  
Room 937 West Tower  
U.S. Environmental Protection Agency  
401 M Street, S.W.  
Washington, D.C. 20460

*Let's  
discuss  
AS*

*G.F.  
FILE*

*Syms Roy - RTP  
Amanda Agnew*

Re: Request for Approval of Equivalent Alternative to Flare System under Coke Oven NESHAP

Dear Mr. Shapiro:

Tonawanda Coke Corporation is a merchant coke producer that operates a one-battery, 60 oven foundry coke plant in Tonawanda, NY. As this plant is subject to the requirements of the National Emission Standard for a Hazardous Air Pollutant (NESHAP) for Coke Ovens promulgated by the USEPA on October 27, 1993, we are required to install a bypass bleeder stack flare system on the battery by 31 March 1994. This letter is to request the Agency's approval of an equivalent, alternative system to the required flare system.

#### Description of Alternative System

The alternative system for which Tonawanda Coke Corporation is seeking approval involves the installation/use of six(6) standpipes, spread across the length of the battery, for pressure equalization in the event of an exhauster failure. Upon exhauster failure and the need for venting, all standpipes would remain closed and no venting would occur until coke oven personnel were present to open each respective standpipe cap and light off the coke oven gas being held by it. This procedure would be fully implemented within approximately 3 to 5 minutes and, as the battery would have no other relief vents, would ensure that no unburned gas is vented to the atmosphere. All applicable opacity standards would be met.

Engineering estimates confirm that six standpipes will be adequate for handling the amount of coke oven gas being generated by and released from the battery (after igniting) during an exhauster failure. The estimates show that each standpipe is capable of handling approximately 1,762 cubic feet/minute of coke oven gas, for a total capacity of 10,572 cubic/minute, at the design parameters shown below:

. Maximum gas generation rate	6,700 cubic feet/minute
. Standpipe diameter	9 inches
. Coke oven gas density	0.03 pounds/cubic foot
. Coke oven gas velocity (@ opening)	4,000 feet/minute
. Coke oven gas pressure	0.4 inches water

As a result, the proposed system would be capable of handling 160+ percent of the maximum gas generating capacity of the battery.



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### Justification

Approval of the alternative system is justified in light of several factors, including:

- . Low Rate of Generating Coke Oven Gas
- . Overabundance of Exhauster Capacity
- . Compact Plant Layout/Plant Design
- . Minimum Likelihood of Venting Incidents

Each of these is discussed in detail below.

#### Low Rate of Generating Coke Oven Gas

Tonawanda Coke Corporation's Tonawanda coke plant produces only foundry coke and, hence, generates coke oven gas at a much lower rate than a similarly-sized furnace coke plant. Our typical foundry coke production rate yields coke oven gas at the rate of about 5 million to 7 million cubic feet of gas per day, and the maximum rate is only about 9.7 million cubic feet of gas per day. This is only a fraction of the gas production rate for a furnace coke plant, and is among the lowest production rates for a foundry coke plant. This relatively low gas production rate results in lower potential venting emission and, as explained below, provides more time to correct malfunctions without the need for venting.

Because we generate such small volumes of coke oven gas, gas availability for steam production is a chronic problem. Inevitably, we are forced to supplement coke oven gas with natural gas, particularly in winter time. Consequently, venting is very expensive for use, and we avoid it at all costs.

#### Overabundance of Exhauster Capacity

Although our coke plant is small by industry standards, we have more than the usual number of spare exhausters for drawing coke oven gas from the coke ovens and distributing it for its end uses (i.e., underfiring of the coke ovens and steam generation). In fact, the plant is equipped with three (3) constant speed, multistage, centrifugal exhausters, two of which are electric motor driven and one of which has a steam turbine drive. Each exhauster can handle about 150 percent of the plant's maximum gas production rate. The three exhausters, their high capacity, and their utilization of two different power sources (i.e., steam and electricity) all minimize the likelihood that an exhauster will be unavailable in an emergency, allowing a venting incident to occur.

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#### Compact Plant Layout/Plant Design

The plant layout is so compact that, even in an exhauster failure, gas will be pulled from the coke oven collector main by the natural draft of the coke oven underfiring and the forced draft of the boiler house. The coke ovens and the exhausters are only separated by 200 feet, and the exhausters and the boiler house by only 500 feet. Additionally, the exhausters are designed such that gas can pass through them even when they are not operating - a governing valve connecting the pressure side to the suction side affords a route around each exhauster.

#### Minimal Likelihood of Venting Incidents

Based on personnel interviews and plant records, there have been only five (5) instances over the last six years when a venting incident could have occurred. However, in none of these cases was raw coke oven gas ever vented.

During the only instance in which venting occurred, plant personnel implemented the system for which we are seeking approval (i.e., they opened and lit off some of the respective standpipes (or the standpipes auto-ignited)). The standpipes continued to flare coke oven gas until the incident had passed. As no residual emission were observed, the standpipes were burning clean.

The incident was caused by the failure of an air compressors. Compressed air is essential to operation of the controls that govern collecting main pressure. This situation, which occurred in December 1990, resulted in a condition where the governing valve defaulted in the "open" position, thus preventing adequate suction to the ovens. To avoid this situation in the future, a backup air compressor has been installed and the control default has since been changed to the "closed" position, thereby allowing full suction to the coke ovens in the event of such a failure. Manual-operated settings will temporarily control suction while repairs are made.

As noted above, there have been four (4) other instances in the last six years when an event occurred that created the potential for venting of coke oven gas. Each of these involved the outage of the operating exhauster due to a power failure or a steam outage. In none of these instances did venting actually occur, however, as plant personnel immediately switched to one of the alternate exhausters

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Conclusion

In consideration of the exhauster capacity, plant layout, and plant design considerations discussed above, the minimal likelihood of potential venting incidents, and the demonstrated adequacy of the proposed system to mitigate such incidents, Tonawanda Coke Corporation believes that the proposed system is indeed equivalent to that required by the NESHAP, and respectfully requests it approval by the Agency. Thank you for your prompt attention to this request.

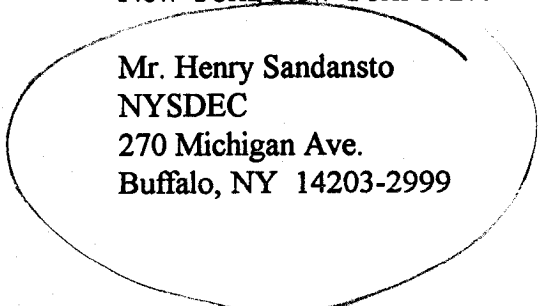
Please call me at (716)876-6222 if you have any questions.

Sincerely,



Mark L. Kamholz  
Manager-Environmental Control

cc: U.S.E.P.A. Region II  
Air Section  
20 Federal Plaza  
New York, New York 10275



Mr. Henry Sandansto  
NYSDEC  
270 Michigan Ave.  
Buffalo, NY 14203-2999

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REGION 9



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

DEC 30 1993

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GOVERNMENT  
EXHIBIT  
1:10-cr-00219

Mr. Mark L. Kamholz  
Manager-Environmental Control  
Tonawanda Coke Corporation  
Box 5007  
Tonawanda, New York 14151-5007

Dear Mr. Kamholz:

The purpose of this letter is to respond to your request for approval of an alternative emission control as an equivalent to the ignitor/flare system that is required for bypass/bleeder stacks under the Coke Oven National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR Part 63.

Section 63.307 of the Coke Oven NESHAP requires that on or before March 31, 1994, each coke oven battery be equipped with a bypass/bleeder stack flare system that meets the specific design and operational requirements of the rule. As an alternative, the rule allows for approval of a control device or system that achieves at least 98 percent destruction or control of coke oven emissions vented to the alternative control device or system. You are requesting a determination of equivalency for a manually-operated control system that consists of six standpipes which are to be "light off" in the event of a coke oven gas venting incident.

After extensive review of your request by my staff and the Regions, we have concluded that your proposal does not represent an adequate alternative that would achieve at least 98 percent control or destruction efficiency.

We considered the following information in reaching the conclusions stated above:

Description of Alternative System

In the event of a need for venting, it is stated that all standpipes would remain closed, and no venting would occur. However, the pressure will begin to increase immediately when the gas removal system fails and will result in increased emissions from doors, lids, and oftakes. As the pressure increases, seals

will begin to fail, i.e., standpipe caps will blow open, lids will become unseated, and large door leaks will occur. Consequently, increased emissions will escape from other parts of the battery in the 3-5 minute period before workers vent the battery through the standpipes.

Furthermore, there is no assurance that the proposed manual system will achieve the same destruction efficiency as an engineered flare. The ignition may be explosive instead of a smooth ignition, there is no assurance of adequate mixing with combustion air, which is important for complete combustion, and there is little or no control of the gas velocity.

#### Low Rate of Generating Coke Oven Gas

It is stated that foundry batteries produce less gas than furnace batteries and Tonawanda's records show that, historically, venting raw coke oven gas has not been a problem. This argument was raised during the Regulatory Negotiation process and was not accepted as a reason for not installing the flare system. The control requirements are based on a destruction efficiency, not the type of battery.

#### Overabundance of Exhauster Capacity

Although the plant appears to have an overabundance of exhauster capacity, problems can still occur. For example, another facility had a leak in a gas line which resulted in a venting incident. In this case, raw coke oven gas needed to be vented in order to initiate repairs. In another case, an explosion at one exhauster caused damage to the standby unit. As coke plants increase in age, the likelihood of non-exhauster-related problems increases.

#### Compact Plant Layout/Plant Design

Tonawanda claims that coke oven gas would be pulled from the collector main even in the event of exhauster failure because of natural draft from the underfiring system and forced draft from the boiler house. Upon verification, you said the battery would not actually vent in this manner through the combustion stack, but that the pressure in the ovens would build up more slowly than would occur at other coke oven batteries. However, the fact remains that the pressure would build up in the event of an exhauster failure and the same problems would occur as described above under Description of Alternative System.

#### Minimal Likelihood of Venting Incidents

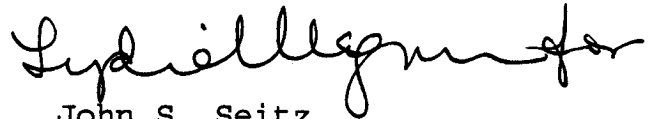
Some of the factors you cite indicate that you may have a lower potential for venting raw coke oven gas than some other batteries, and your records show that, historically, it has not

been a problem. However, other plants have already argued this point during the negotiations, and it was not accepted as a reason for not installing the flare system.

In conclusion, we feel a very rapid response is needed when there is a venting episode, as a large amount of coke oven gas can be generated in a short period of time. Also, we have discovered that some companies, after closer examination, found they were venting more often than they thought. Some of these venting episodes were brief, but occurred several times per day at one plant. A manually-operated system would not be as reliable as a flare system for these brief venting episodes. An automatic system is much faster than using battery workers to vent the battery. And, finally, the information provided does not assure the Agency that the proposed system will achieve a control or destruction efficiency of 98 percent, as required by the Coke Oven NESHAP.

I appreciate this opportunity to be of service and trust that this information will be helpful to you. If you need further assistance, please contact Amanda Agnew at (919) 541-5268.

Sincerely,



John S. Seitz  
Director

Office of Air Quality Planning  
and Standards

cc: Amanda Agnew (MD-13)  
Doug Bell (MD-13)  
Dan Couturier (EN-341W)  
Roy Huntley (MD-13)  
Bruce Jordan (MD-13)  
Karl Mangels, EPA Region II  
Jerry McLaughlin (LE-134A)  
John Rasnic (EN-341W)  
Sims Roy (MD-13)  
Ed Wojciechowski, EPA Region V  
Air, Pesticides, and Toxics Management Division Directors,  
EPA Regions I and IV  
Air and Waste Management Division Director, EPA Region II  
Air, Radiation and Toxics Division Director, EPA Region III  
Air and Radiation Division Director, EPA Region V  
Air and Toxics Division Director, EPA Region VIII

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**JAN 11 1994**

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ENVIRONMENTAL CONSERVATION  
REGION 9**



*Clean Air Coalition  
Citizens Enviro Coalition*

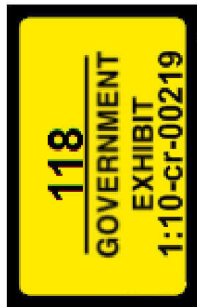


Exhibit 18

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